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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,636	02/06/2002	Martin Greive	A-3222	8095

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LERNER AND GREENBERG, P.A.
PATENT ATTORNEYS AND ATTORNEYS AT LAW
Post Office Box 2480
Hollywood, FL 33022-2480

EXAMINER

LIANG, LEONARD S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/068,636	GREIVE, MARTIN	
	Examiner	Art Unit	
	Leonard S Liang	2853	LSL

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

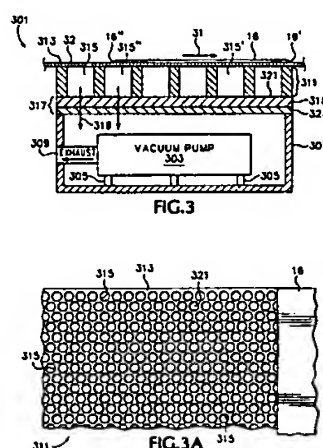
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2 and 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yraceburu et al (US Pat 6409332) in view of Medin et al (US Pat 6328440).

Yraceburu et al discloses:

- {claim 1} A device for holding a sheetlike article on a moveable underlying surface for transporting the sheetlike article at least in one direction selected from the group consisting of a direction into and a direction out of an operating station having printing heads (figure 1, reference 14, 31, 37; column 2, lines 66-67; column 3, lines 1-3); a negative pressure source (figure 3, reference 303); a moveable belt formed with through-passage holes, the belt having a surface underlying the sheetlike article, the sheetlike article being retainable by pneumatic pressure on the surface (figure 3, reference 32, 307; column 5, lines 11-17); a screening device disposed locally fixedly with respect to the operating station and having a throttle opening, the screening device serving for reducing an airflow in a region of the printing heads at least with respect to adjacent regions, the reduction in the airflow resulting from the sheetlike article being held on the underlying surface (figure 3; column 6, lines 6-15); a cover plate disposed beneath the belt, the cover plate formed with pass-through openings (figure 3, reference 311, 313); a sheet-like mesh formed with holes and disposed beneath the cover plate, the holes of the mesh being of such number and size to cause, as a result of flow resistance thereof, an adequate reduction in the airflow in the region of the printing heads (figure 3, reference 317; column 6, lines 6-15); and a

virtually limited first suction chamber disposed beneath the region of the printing heads (figure 3, reference 315; column 2, lines 5-18, 39-65; column 5, lines 25-29); the first suction chamber having termination edges extending transversely to a transporting direction of the movable belt and limiting the first suction chamber in a longitudinal direction of the movable belt, the first suction chamber being connected to the negative-pressure source via the throttle opening (figure 3, reference 315, 317); and further suction chambers connected to the negative-pressure source, the further suction chambers being located adjacent the first suction chamber (figure 3, reference 315', 315'')



- {claim 2} the printing heads are ink-jet heads (column 2, lines 5-18, 66-67)
- {claim 7} the cover plate covers the suction chambers and serves for guiding the belt (figure 3, reference 311, 313)
- {claim 8} the mesh is connected to the cover plate (figure 3, reference 311, 317)
- {claim 9} the connection of the mesh to the cover plate is a connection selected from the group consisting of integral and releasable connections (figure 3, reference 311, 313; figure 3A, reference 313; platen is integrally connected to mesh 317; platen surface 313 is individually shown in figure 3A, and thus implied to be releasable)
- {claim 10} the underlying surface is on a continuous transport belt formed with holes around the length thereof and guidable in given sections by the cover plate (figure 3, reference 32, 313; column 5, lines 15-18)

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- {claim 11} the pneumatic pressure is selected from the group thereof consisting of positive and negative pressures (figure 3, reference 303; negative pressure disclosed)
- {claim 12} the pass-through openings of the cover plate in the region of the printing heads have a smaller pass-through surface area than pass-through openings outside the region (inherent in view of column 5, lines 60-67; column 6, lines 1-2; openings in print regions are disclosed to be partially open so as not to alter ink drop flight trajectories)
- {claim 13} the mesh only applies in areas where the printing heads are located (inherent in view of column 2, lines 39-41; column 6, lines 14-15; the invention is meant to apply towards minimizing airflow impact on ink-jet drop flight trajectory (ink-jet drop trajectory is located in areas where the printing heads are located))
- {claim 14} An ink jet printing unit (figure 1); a movable belt formed with through-passage holes for holding a sheetlike article by suction action and transporting the sheetlike article (figure 3, reference 32, 307; column 5, lines 11-17); a printing head disposed above the movable belt for printing the sheetlike article (figure 1, reference 14); a virtually limited first suction chamber disposed beneath the movable belt and a region of the printing head, the first suction chamber having a screening device for reducing an airflow in the region of the printing head (figure 3, reference 315); further suction chambers disposed adjacent the first suction chamber (figure 3, reference 315', 315''); a negative-pressure source connected to the first suction chamber and the further suction chambers for removing air present in the first suction chamber and the further suction chambers (figure 3, reference 303)

Yraceburu et al differs from the claimed invention in that it does not disclose:

- {claims 1 and 14} the further suction chambers having a greater negative pressure than that of the first suction chamber

Medin et al discloses:

- {claims 1 and 14} the further suction chambers having a greater negative pressure than that of the first suction chamber (figure 1, reference 48, 50; in this scenario, the vacuum conduit is positioned closer to the further suction chambers than to the first suction chamber; thus, due to proximity, the further suction chambers have a greater negative pressure than that of the first suction chamber)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the vacuum pump of Yraceburu et al with the vacuum conduit and source of Medin et al. The motivation for the skilled artisan in doing so is to gain the benefit of being able to apply different amounts of negative pressure along the length of the belt, thus improving print quality, and preventing problems such as cockling, rippling, and buckling.

Response to Arguments

2. Applicant's arguments with respect to claims 1-2 and 7-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kubatzki et al (US Pat 6045278) discloses an apparatus for transporting and printing print media.

Wotton et al (US Pat 6497522) discloses edge lift reduction for belt type transports.

Fukuda (US Pat 6604820) discloses an ink-jet type image forming device.

Bruhn (US Pat 6679602) discloses a vacuum holddown apparatus for a hardcopy device.

Frankenberger et al (US Pat 6663550) discloses a smoothing device for flat printing materials.

Smith (US Pat 6672720) discloses a printer with vacuum platen having movable belt providing selectable active area.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (703) 305-4754. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (703) 308-4896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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LAMSON NGUYEN
PRIMARY EXAMINER
1/30/04